

WHAT IS CLAIMED IS:

1. An isolated protein complex comprising two proteins, the protein complex selected from the group consisting of:

5 (i) a complex of a first protein and a second protein;
 (ii) a complex of a fragment of said first protein and said second protein;
 (iii) a complex of said first protein and a fragment of said second protein; and
 (iv) a complex of a fragment of said first protein and a fragment of said second protein, wherein said first and second proteins are selected from the group consisting of:

10 (a) said first protein being BAT3 and said second protein being selected from the group consisting of glypican, LRP2, LRPAP1 and transthyretin;

(b) said first protein being Mint1 and said second protein being selected from the group consisting of GS and KIAA0427;

(c) said first protein being CASK and said second protein being dystrophin;

15 (d) said first protein being CIB and said second protein being selected from the group consisting of S1P, ATP-synthase and SCD-2;

(e) said first protein being Mint2 and said second protein being S1P;

(f) said first protein being PS1 and said second protein being selected from the group consisting of Mint1, P-glycerate DH, beta-ETF and GAPDH;

20 (g) said first protein being PS2 and said second protein being GAPDH;

(h) said first protein being KIAA0443 and said second protein being selected from the group consisting of PI-4 and 5HT-2A•R;

(i) said first protein being KIAA0351 and said second protein being TRIO;

(j) said first protein being BAX and said second protein being slo K⁺ channel;

25 (k) said first protein being FAK2 and said second protein being SUR1;

(l) said first protein being FAK and said second protein being selected from the group consisting of rab11, casein kinase II and GST trans.M3; and

(m) said first protein being Bcr and said second protein being selected from the group consisting of PSD95, DLG3, semaphorin F, HTF4A and SCRAP.

2. The protein complex of claim 1, wherein said protein complex comprises said first protein and said second protein.

3. The protein complex of claim 1, wherein said protein complex comprises a fragment of said first protein and said second protein or said first protein and a fragment of said second protein.

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4. The protein complex of claim 1, wherein said protein complex comprises fragments of said first protein and said second protein.

5. An isolated antibody selectively immunoreactive with a protein complex of claim 1.

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6. The antibody of claim 5, wherein said antibody is a monoclonal antibody.

7. A method for diagnosing a neurodegenerative disorder in an animal, which comprises assaying for:

- (a) whether a protein complex set forth in claim 1 is present in a tissue extract;
- (b) the ability of proteins to form a protein complex set forth in claim 1; and
- (c) a mutation in a gene encoding a protein of a protein complex set forth in claim

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8. The method of claim 7, wherein said animal is a human.

9. The method of claim 8, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

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10. The method of claim 9, wherein said neurodegenerative disorder is Alzheimer's Disease.

11. The method of claim 7, wherein the diagnosis is for a predisposition to said neurodegenerative disorder.

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12. The method of claim 7, wherein the diagnosis is for the existence of said neurodegenerative disorder.

13. The method of claim 7, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

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14. The method of claim 13, wherein said neurodegenerative disorder is Alzheimer's Disease.

15. The method of claim 7, wherein said assay comprises a yeast two-hybrid assay.

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16. The method of claim 7, wherein said assay comprises measuring *in vitro* a complex formed by combining the proteins of the protein complex, said proteins isolated from said animal.

17. The method of claim 16, wherein said complex is measured by binding with an antibody specific for said complex.

18. The method of claim 7, wherein said assay comprises mixing an antibody specific for said protein complex with a tissue extract from said animal and measuring the binding of said antibody.

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19. A method for determining whether a mutation in a gene encoding one of the proteins of a protein complex set forth in claim 1 is useful for diagnosing a neurodegenerative disorder, which comprises assaying for the ability of said protein with said mutation to form a complex with the other protein of said protein complex, wherein an inability to form said complex is indicative of said mutation being useful for diagnosing a neurodegenerative disorder.

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20. The method of claim 19, wherein said gene is an animal gene.

21. The method of claim 20, wherein said animal is a human.

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22. The method of claim 21, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.
- 5 23. The method of claim 22, wherein said neurodegenerative disorder is Alzheimer's Disease.
24. The method of claim 19, wherein the diagnosis is for a predisposition to a neurodegenerative disorder.
- 10 25. The method of claim 19, wherein the diagnosis is for the existence of a neurodegenerative disorder.
26. The method of claim 19, wherein said assay comprises a yeast two-hybrid assay.
27. The method of claim 19, wherein said assay comprises measuring *in vitro* a complex formed by combining the proteins of the protein complex, said proteins isolated from an animal.
28. The method of claim 27, wherein said animal is a human.
- 20 29. The method of claim 27, wherein said complex is measured by binding with an antibody specific for said complex.
30. A non-human animal model for a neurodegenerative disorder wherein the genome of said animal or an ancestor thereof has been modified such that the formation of a protein complex set forth in claim 1 has been altered.
- 25 31. The non-human animal model of claim 30, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.
- 30 32. The non-human animal model of claim 31, wherein said neurodegenerative disorder is Alzheimer's Disease.

33. The non-human animal model of claim 30, wherein the formation of said protein complex has been altered as a result of:

(a) over-expression of at least one of the proteins of said protein complex;

(b) replacement of a gene for at least one of the proteins of said protein complex with a gene from a second animal and expression of said protein;

(c) expression of a mutant form of at least one of the proteins of said protein complex;

(d) a lack of expression of at least one of the proteins of said protein complex; or

(e) reduced expression of at least one of the proteins of said protein complex.

34. A cell line obtained from the animal model of claim 30.

35. A non-human animal model for a neurodegenerative disorder, wherein the biological activity of a protein complex set forth in claim 1 has been altered.

36. The non-human animal model of claim 35, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

37. The non-human animal model of claim 36, wherein said neurodegenerative disorder is Alzheimer's Disease.

38. The non-human animal model of claim 35, wherein said biological activity has been altered as a result of:

(a) disrupting the formation of said complex; or

(b) disrupting the action of said complex.

39. The non-human animal model of claim 35, wherein the formation of said complex is disrupted by binding an antibody to at least one of the proteins which form said protein complex.

40. The non-human animal model of claim 35, wherein the action of said complex is disrupted by binding an antibody to said complex.
41. The non-human animal model of claim 35, wherein the formation of said complex is disrupted by binding a small molecule to at least one of the proteins which form said protein complex.
42. The non-human animal model of claim 35, wherein the action of said complex is disrupted by binding a small molecule to said complex.
43. A cell in which the genome of cells of said cell line has been modified to produce at least one protein complex set forth in claim 1.
44. A cell line in which the genome of the cells of said cell line has been modified to eliminate at least one protein of a protein complex set forth in claim 1.
45. A composition comprising:
a first expression vector having a nucleic acid encoding a first protein or a homologue or derivative or fragment thereof; and
a second expression vector having a nucleic acid encoding a second protein, or a homologue or derivative or fragment thereof, wherein said first and said second proteins are the proteins of claim 1.
46. A host cell comprising:
a first expression vector having a nucleic acid encoding a first protein which is first protein or a homologue or derivative or fragment thereof; and
a second expression vector having a nucleic acid encoding a second protein which is second protein, or a homologue or derivative or fragment thereof thereof, wherein said first and said second proteins are the proteins of claim 1.
47. The host cell of claim 46, wherein said host cell is a yeast cell.

48. The host cell of claim 46, wherein said first and second proteins are expressed in fusion proteins.
49. The host cell of claim 46, wherein one of said first and second nucleic acids is linked to a nucleic acid encoding a DNA binding domain, and the other of said first and second nucleic acids is linked to a nucleic acid encoding a transcription-activation domain, whereby two fusion proteins can be produced in said host cell.
50. The host cell of claim 46, further comprising a reporter gene, wherein the expression of the reporter gene is determined by the interaction between the first protein and the second protein.
51. A method for screening for drug candidates capable of modulating the interaction of the proteins of a protein complex, the protein complex selected from the group consisting of the protein complexes of claim 1, said method comprising
- (i) combining the proteins of said protein complex in the presence of a drug to form a first complex;
 - (ii) combining the proteins in the absence of said drug to form a second complex;
 - (iii) measuring the amount of said first complex and said second complex; and
 - (iv) comparing the amount of said first complex with the amount of said second complex,
- wherein if the amount of said first complex is greater than, or less than the amount of said second complex, then the drug is a drug candidate for modulating the interaction of the proteins of said protein complex.
52. The method of claim 51, wherein said screening is an *in vitro* screening.
53. The method of claim 51, wherein said complex is measured by binding with an antibody specific for said protein complexes.

54. The method of claim 51, wherein if the amount of said first complex is greater than the amount of said second complex, then said drug is a drug candidate for promoting the interaction of said proteins.

5 55. The method of claim 51, wherein if the amount of said first complex is less than the amount of said second complex, then said drug is a drug candidate for inhibiting the interaction of said proteins.

10 56. A drug useful for treating a neurodegenerative disorder identified by the method of claim 51.

57. The drug of claim 56, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

58. The drug of claim 57, wherein said neurodegenerative disorder is Alzheimer's Disease.

59. A method of screening for drug candidates useful in treating a neurodegenerative disorder which comprises the steps of:

20 (a) measuring the activity of a protein selected from the group consisting of a first protein and a second protein in the presence of a drug, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1,

(b) measuring the activity of said protein in the absence of said drug, and

(c) comparing the activity measured in steps (1) and (2),

25 wherein if there is a difference in activity, then said drug is a drug candidate for treating said neurodegenerative disorder.

60. A drug useful for treating a neurodegenerative disorder identified by the method of claim 59.

61. The drug of claim 60, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

5 62. The drug of claim 61, wherein said neurodegenerative disorder is Alzheimer's Disease.

63. A method for selecting modulators of a protein complex formed between a first protein or a homologue or derivative or fragment thereof and a second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

providing the protein complex;

contacting said protein complex with a test compound; and

determining the presence or absence of binding of said test compound to said protein complex.

64. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 63.

65. The modulator of claim 64, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

66. The modulator of claim 65, wherein said neurodegenerative disorder is Alzheimer's Disease.

67. A method for selecting modulators of an interaction between a first protein and a second protein, said first protein or a homologue or derivative or fragment thereof and said second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

contacting said first protein with said second protein in the presence of a test compound; and

determining the interaction between said first protein and said second protein.

68. The method of claim 67, wherein at least one of said first and second proteins is a fusion protein having a detectable tag.

5 69. The method of claim 67, wherein said step of determining the interaction between said first protein and said second protein is conducted in a substantially cell free environment.

70. The method of claim 67, wherein the interaction between said first protein and said second protein is determined in a host cell.

10 71. The method of claim 70, wherein said host cell is a yeast cell.

72. The method of claim 67, wherein said test compound is provided in a phage display library.

73. The method of claim 67, wherein said test compound is provided in a combinatorial library.

74. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 67.

20 75. The modulator of claim 74, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

76. The modulator of claim 75, wherein said neurodegenerative disorder is Alzheimer's Disease.

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77. A method for selecting modulators of a protein complex formed from a first protein or a homologue or derivative or fragment thereof, and a second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

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contacting said protein complex with a test compound; and

determining the interaction between said first protein and said second protein.

78. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 77.

5 79. The modulator of claim 78, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

80. The modulator of claim 79, wherein said neurodegenerative disorder is Alzheimer's Disease.

10 81. A method for selecting modulators of an interaction between a first polypeptide and a second polypeptide, said first polypeptide being a first protein or a homologue or derivative or fragment thereof and said second polypeptide being a second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

providing in a host cell a first fusion protein having said first polypeptide, and a second fusion protein having said second polypeptide, wherein a DNA binding domain is fused to one of said first and second polypeptides while a transcription-activating domain is fused to the other of said first and second polypeptides;

20 providing in said host cell a reporter gene, wherein the transcription of the reporter gene is determined by the interaction between the first polypeptide and the second polypeptide;

allowing said first and second fusion proteins to interact with each other within said host cell in the presence of a test compound; and

25 determining the presence or absence of expression of said reporter gene.

82. The method of claim 81, wherein said host cell is a yeast cell.

30 83. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 81.

84. The modulator of claim 83, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

5 85. The modulator of claim 84, wherein said neurodegenerative disorder is Alzheimer's Disease.

86. A method for identifying a compound that binds to a protein in vitro, wherein said protein is selected from the group consisting of the proteins of claim 1, said method comprising:

contacting a test compound with said protein for a time sufficient to form a complex

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detecting for the formation of a complex by detecting said protein or the compound in the complex,

so that if a complex is detected, a compound that binds to protein is identified.

87. A compound useful for treating a neurodegenerative disorder identified by the method of claim 86.

88. The compound of claim 87, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

89. The compound of claim 88, wherein said neurodegenerative disorder is Alzheimer's Disease.

90. A method for selecting modulators of an interaction between a first polypeptide and a second polypeptide, said first polypeptide being a first protein or a homologue or derivative or fragment thereof and said second polypeptide being a second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

25 providing atomic coordinates defining a three-dimensional structure of a protein complex formed by said first polypeptide and said second polypeptide; and

30 designing or selecting compounds capable of modulating the interaction between a first polypeptide and a second polypeptide based on said atomic coordinates.

91. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 90.

5 92. The modulator of claim 91, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

93. The modulator of claim 92, wherein said neurodegenerative disorder is Alzheimer's Disease.

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94. A method for providing inhibitors of an interaction between a first polypeptide and a second polypeptide, said first polypeptide being a first protein or a homologue or derivative or fragment thereof and said second polypeptide being a second protein or a homologue or derivative or fragment thereof, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

providing atomic coordinates defining a three-dimensional structure of a protein complex formed by said first polypeptide and said second polypeptide; and

designing or selecting compounds capable of interfering with the interaction between a first polypeptide and a second polypeptide based on said atomic coordinates.

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95. An inhibitor useful for treating a neurodegenerative disorder identified by the method of claim 94.

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96. The inhibitor of claim 95, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

97. The inhibitor of claim 96, wherein said neurodegenerative disorder is Alzheimer's Disease.

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98. A method for selecting modulators of a protein, wherein said protein is selected from the group consisting of the proteins of claim 1, said method comprising:

contacting said protein with a test compound; and

determining binding of said test compound to said protein.

99. The method of claim 98, wherein said test compound is provided in a phage display library.

5 100. The method of claim 98, wherein said test compound is provided in a combinatorial library.

101. A modulator useful for treating a neurodegenerative disorder identified by the method of claim 98.

10 102. The modulator of claim 101, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

103. The modulator of claim 102, wherein said neurodegenerative disorder is Alzheimer's Disease.

104. A method for modulating, in a cell, a protein complex having a first protein interacting with a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

20 administering to said cell a compound capable of modulating said protein complex.

105. The method of claim 104, wherein said compound is selected from the group consisting of:

(a) a compound which is capable of interfering with the interaction between said first protein and said second protein,

25 (b) a compound which is capable of binding at least one of said first protein and said second protein,

(c) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of said second protein and capable of binding said first protein,

30 (d) a compound which comprises a peptide capable of binding said first protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of said second protein of the same length,

(e) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of said first protein and capable of binding said second protein,

(f) a compound which comprises a peptide capable of binding said second protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of said first protein of the same length,

(g) a compound which is an antibody immunoreactive with said first protein or said second protein,

(h) a compound which is a nucleic acid encoding an antibody immunoreactive with said first protein or said second protein,

(i) a compound which modulates the expression of said first protein or said second protein,

(j) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding said first protein or complement thereof, and

(k) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding said second protein or complement thereof.

106. A method for modulating, in a cell, a protein complex having a first protein interacting with a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, said method comprising:

administering to said cell a peptide capable of interfering with the interaction between said first protein and said second protein, wherein said peptide is associated with a transporter capable of increasing cellular uptake of said peptide.

107. The method of claim 106, wherein said peptide is covalently linked to said transporter which is selected from the group consisting of penetratins, *l*-Tat₄₉₋₅₇, *d*-Tat₄₉₋₅₇, retro-inverso isomers of *l*- or *d*-Tat₄₉₋₅₇, L-arginine oligomers, D-arginine oligomers, L-lysine oligomers, D-lysine oligomers, L-histidine oligomers, D-histidine oligomers, L-ornithine oligomers, D-ornithine oligomers, short peptide sequences derived from fibroblast growth factor, Galparan, and HSV-1 structural protein VP22, and peptoid analogs thereof.

108. A method for modulating, in a cell, the interaction of a protein with a ligand, wherein said protein is selected from the group consisting of the first or second proteins of claim 1, said method comprising:

administering to said cell a compound capable of modulating said interaction.

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109. The method of claim 108, wherein said protein is one of said first or second proteins and said ligand is the other of said first or second proteins

110. The method of claim 108, wherein said compound is selected from the group consisting of:

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(a) a compound which interferes with said interaction,

(b) a compound which binds to said protein or said ligand,

(c) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of said protein and capable of binding said ligand,

(d) a compound which comprises a peptide capable of binding said ligand and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of said protein of the same length,

(e) a compound which is an antibody immunoreactive with said protein or said ligand,

(f) a compound which is a nucleic acid encoding an antibody immunoreactive with said ligand or said protein,

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(g) a compound which modulates the expression of said protein or said ligand, and

(h) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding said ligand or said protein or complement thereof.

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111. A method for modulating neuronal death in a patient having a neurodegenerative disorder comprising:

modulating a protein complex having a first protein interacting with a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1.

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112. The method of claim 111, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

5 113. The method of claim 112, wherein said neurodegenerative disorder is Alzheimer's Disease.

114. A method for modulating neuronal death in a patient having neurodegenerative disorder comprising:

administering to the patient a compound capable of modulating a protein complex having a first protein interacting with a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1.

115. The method of claim 114, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

116. The method of claim 115, wherein said neurodegenerative disorder is Alzheimer's Disease.

117. The method of claim 114, wherein said compound is selected from the group consisting of:
(a) a compound which is capable of interfering with the interaction between said first protein and said second protein,

(b) a compound which is capable of binding at least one of said first protein and said second protein,

(c) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of a second protein and capable of binding a first protein,

(d) a compound which comprises a peptide capable of binding a first protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of a second protein of the same length,

(e) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of first protein and capable of binding a second protein,

(f) a compound which comprises a peptide capable of binding a second protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of a first protein of the same length,

(g) a compound which is an antibody immunoreactive with a first protein or a second protein,

(h) a compound which is a nucleic acid encoding an antibody immunoreactive with a first protein or a second protein,

(i) a compound which modulates the expression of a first protein or a second protein,

(j) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding a first protein or complement thereof, and

(j) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding a second protein or complement thereof

118. A method for modulating neuronal death in a patient having neurodegenerative disorder comprising:

administering to said cell a peptide capable of interfering with the interaction between a first protein and a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, wherein said peptide is associated with a transporter capable of increasing cellular uptake of said peptide.

119. The method of claim 118, wherein said peptide is covalently linked to said transporter which is selected from the group consisting of penetratins, *l*-Tat₄₉₋₅₇, *d*-Tat₄₉₋₅₇, retro-inverso isomers of *l*- or *d*-Tat₄₉₋₅₇, L-arginine oligomers, D-arginine oligomers, L-lysine oligomers, D-lysine oligomers, L-histidine oligomers, D-histidine oligomers, L-ornithine oligomers, D-ornithine oligomers, short peptide sequences derived from fibroblast growth factor, Galparan, and HSV-1 structural protein VP22, and peptoid analogs thereof.

120. A method for treating a neurodegenerative disorder comprising:

administering to a patient in need of treatment a compound capable of modulating a protein complex having a first protein interacting with a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1.

121. The method of claim 120, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

5 122. The method of claim 121, wherein said neurodegenerative disorder is Alzheimer's Disease.

123. The method of claim 120, wherein said compound is selected from the group consisting of:

(a) a compound which is capable of interfering with the interaction between said first protein and said second protein,

10 (b) a compound which is capable of binding at least one of said first protein and said second protein,

(c) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of said second protein and capable of binding said first protein,

(d) a compound which comprises a peptide capable of binding said first protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of said second protein of the same length,

(e) a compound which comprises a peptide having a contiguous span of amino acids of at least 4 amino acids of first protein and capable of binding said second protein,

15 (f) a compound which comprises a peptide capable of binding said second protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of said first protein of the same length,

20 (g) a compound which is an antibody immunoreactive with said first protein or said second protein,

25 (h) a compound which is a nucleic acid encoding an antibody immunoreactive with said first protein or said second protein,

(i) a compound which modulates the expression of said first protein or said second protein,

(j) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding a first protein or complement thereof,

30 (k) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding a second protein or complement thereof, and

(l) a compound which is capable of strengthening the interaction between said first protein and said second protein.

124. A method for treating a neurodegenerative disorder comprising:

administering to said cell a peptide capable of interfering with the interaction between a first protein and a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1, wherein said peptide is associated with a transporter capable of increasing cellular uptake of said peptide.

125. The method of claim 124, wherein said peptide is covalently linked to said transporter which is selected from the group consisting of penetratins, *l*-Tat₄₉₋₅₇, *d*-Tat₄₉₋₅₇, retro-inverso isomers of *l*- or *d*-Tat₄₉₋₅₇, L-arginine oligomers, D-arginine oligomers, L-lysine oligomers, D-lysine oligomers, L-histidine oligomers, D-histidine oligomers, L-ornithine oligomers, D-ornithine oligomers, short peptide sequences derived from fibroblast growth factor, Galparan, and HSV-1 structural protein VP22, and peptoid analogs thereof.

126. The method of claim 124, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

127. The method of claim 126, wherein said neurodegenerative disorder is Alzheimer's Disease.

128. A method for treating a neurodegenerative disorder comprising:

administering to a patient in need of treatment a compound capable of modulating the activity of a first protein or a second protein, wherein said first and second proteins are selected from the group consisting of the proteins of claim 1.

129. The method of claim 128, wherein said neurodegenerative disorder is selected from the group consisting of Huntington's Disease, Parkinson's Disease, dementia and Alzheimer's Disease.

130. The method of claim 129, wherein said neurodegenerative disorder is Alzheimer's Disease.

131. The method of claim 128, wherein the activity is the interaction of said first protein or said second protein with a ligand.

5 132. The method of claim 131, wherein said ligand is the other of said first or second protein.

133. A method of modulating activity in a cell of a protein, said protein being first protein or a second protein selected from the group consisting of the proteins of claim 1, said method comprising:

10 administering to said cell a compound capable of modulating said protein.

134. The method of claim 133, wherein said compound is selected from the group consisting of:

(a) a compound which is capable of binding said protein,

(b) a compound which comprises a peptide having a contiguous span of at least 4 amino acids of a first protein and capable of binding a second protein,

(c) a compound which comprises a peptide capable of binding a second protein and having an amino acid sequence of from 4 to 30 amino acids that is at least 75% identical to a contiguous span of amino acids of a first protein of the same length,

(d) a compound which is an antibody immunoreactive with said protein,

20 (e) a compound which is a nucleic acid encoding an antibody immunoreactive with said protein, and

(f) a compound which is an antisense compound or a ribozyme specifically hybridizing to a nucleic acid encoding said protein or complement thereof.

25 135. A method for modulating activities of a protein in a cell, said protein being a first protein or a second protein selected from the group consisting of the proteins of claim 1, said method comprising:

30 administering to said cell a peptide having a contiguous span of at least 4 amino acids of one of said first or second proteins and capable of binding the other of said first or second proteins, wherein said peptide is associated with a transporter capable of increasing cellular uptake of said peptide.

136. The method of claim 135, wherein said peptide is covalently linked to said transporter which is selected from the group consisting of penetratins, *l*-Tat₄₉₋₅₇, *d*-Tat₄₉₋₅₇, retro-inverso isomers of *l*- or *d*-Tat₄₉₋₅₇, L-arginine oligomers, D- arginine oligomers, L-lysine oligomers, D-lysine oligomers, L-histidine oligomers, D-histidine oligomers, L-ornithine oligomers, D-ornithine oligomers, short peptide sequences derived from fibroblast growth factor, Galparan, and HSV-1 structural protein VP22, and peptoid analogs thereof.

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